



## **WATER RESOURCES RESEARCH GRANT PROPOSAL**

**Project ID:** 2005NJ87B

**Title:** Lab-on-a-chip device for monitoring trace level arsenic

**Project Type:** Research

**Focus Categories:** Water Quality, Methods, Toxic Substances

**Keywords:** arsenic, lab-on-a-chip, and Supported Liquid Membrane Extraction (SLME), chip, monitoring

**Start Date:** 03/01/2005

**End Date:** 02/28/2006

**Federal Funds:** \$5,000

**Non-Federal Matching Funds:** \$9,775

**Congressional District:** 10

**Principal Investigators:**

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### **Abstract**

This study aims at the development of a low cost, lab-on-a-chip field instrument that is capable of determining the total inorganic arsenic concentration in water samples in a rapid, continuous, reproducible and accurate manner. The approach also precludes the tedious hydride generation methods used in conventional methodologies. By using a chelating agent and Supported Liquid Membrane Extraction (SLME) on a micro-scale platform, we propose to extract and concentrate As from aqueous samples, thus allowing for faster analysis and lower detection limits.